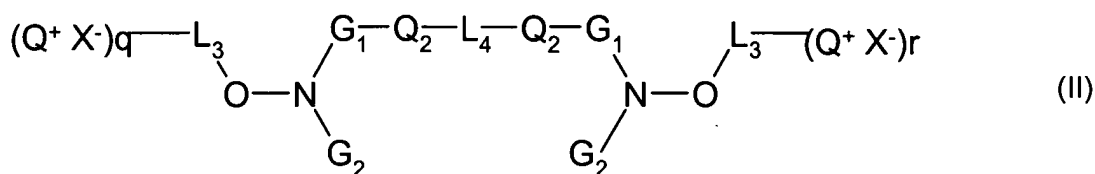
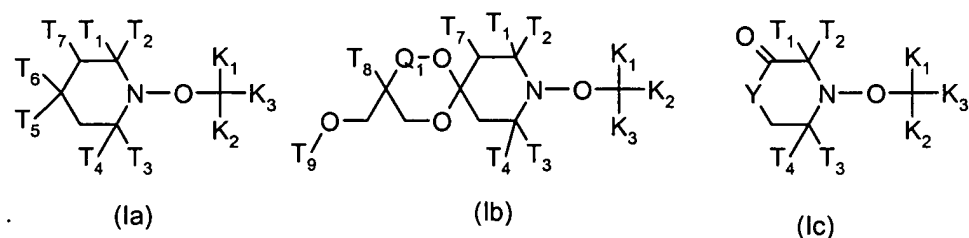


1. (currently amended) A compound of formula (I) (Ia), (Ib), (Ic), (Id), (Ie) or (II)



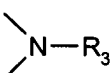

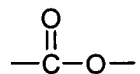
G₁ and G₂ independently represent a tertiary carbon atom to which an unsubstituted C₁-C₁₈alkyl or phenyl or with CN, COC₁-C₁₈alkyl, CO-phenyl, COOC₁-C₁₈alkyl, OC₁-C₁₈alkyl, NO₂, NHC₁-C₁₈alkyl or N(C₁-C₁₈)₂alkyl substituted alkyl or phenyl groups are bonded; or one of

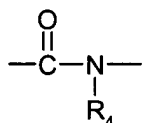
10/519,030

G₁ and G₂ together with the nitrogen atom to which they are bonded form a 5 to 8 membered heterocyclic ring or a polycyclic or spirocyclic 5 to 20 membered heterocyclic ring system which is substituted with 4 C₁-C₄alkyl groups or 2 C₅-C₁₂ spirocycloalkyl groups in the ortho position to the nitrogen atom and which may be further substituted with one or more C₁-C₁₈alkyl, C₁-C₁₈alkoxy or =O groups; and which may be interrupted by a further oxygen or nitrogen atom; with the proviso that at least one of the 4 C₁-C₄alkyl groups in ortho position to the nitrogen atom is higher alkyl than methyl;

L₄ is a linking group selected from the group consisting of

a direct bond, R₁-Y or R₂-C(O)-Y- where Y is attached to G₁ and/or G₂; C₁-C₂₅alkylene,

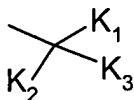
C₂-C₂₅alkylene interrupted by -O-, -S-, -SO-, -SO₂-,  N-R₃, , ,

, phenylene or C₅-C₈cycloalkylene;

Y is O, or NR₉

Q₂ is a direct bond, O, NR₅ or NR₅R₆;

~~L₁(Q⁺X⁻)-L₂(Q⁺X⁻), and -L₃(Q⁺X⁻)~~ [[, are]] is a group



wherein

Q₁ is a direct bond or a -CH₂- group; wherein

if Q₁ is a direct bond, T₈ is hydrogen, and

if Q₁ is -CH₂-, T₈ is methyl or ethyl;

T₁, T₂, T₃ and T₄ are independently methyl or ethyl with the proviso that at least one is ethyl;

T₇ is hydrogen or methyl;

T₁₀ is hydrogen or methyl;

T₅ and T₆ are hydrogen or

T₅ and T₆ together are a group =O, =NOH, =NO-T₉ or

T₅ is hydrogen and T₆ is -O-T₉ or -NR₉-T₉ where T₉ is hydrogen, R₉ or -C(O)-R₉;

T₁₁, T₁₂, T₁₃, T₁₄, T₁₅ and T₁₆ independently are C₁-C₁₈alkyl, C₃-C₁₈alkenyl, C₃-C₁₈alkinyl,

C₅-C₁₂cycloalkyl, phenyl or C₇-C₉phenylalkyl; or

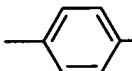
T₁₁ is hydrogen and T₁₂ is a group -P(O)(OC₂H₅)₂ and the others are as defined above;

or T₁₁ and T₁₄ are a group -CH₂-O-T₉ and the others are as defined above; or

T₁₆ is a group -C(O)-Y-R₅ and the others are as defined above; or

T₁₁, T₁₂ and T₁₃ are a group -CH₂OH;

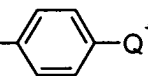
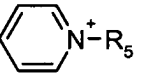
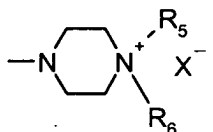
K₁ and K₂ are hydrogen, C₁-C₁₈alkyl, C₅-C₁₂cycloalkyl, phenyl or C₇-C₉phenylalkyl and

K₃ is a group -COK₄ or -Z-K₅ where

K₄ is -Y-[(CH₂-CH₂)-(CH₂)_s-N⁺ R₅R₆ X⁻]_t-CH₂-CH₂-(CH₂)_s-N⁺ R₅R₆R₇ X⁻ or

-Y-CH₂-CHOH-CH₂-N⁺ R₅R₆ X⁻-{[(CH₂-CH₂)-(CH₂)_s-N⁺ X⁻ R₅R₆]_t-CH₂-CH₂-(CH₂)_s-N⁺ R₅R₆R₇ X⁻]_u,

where s is a number from 0-4 [[0-8]], t is a number from 0-4 and u is 1 and Y is -O- or NR₉; or

K₄ is a group ,  or  or

Z is -C(O)- or a direct bond, wherein

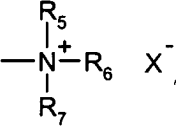
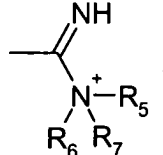
if Z is -C(O)-, K₅ has the same meaning as K₄, and

if Z is a direct bond, K₅ is

Y-CH₂-CHOH-CH₂-N⁺ R₅R₆ X⁻-{[(CH₂-CH₂)-(CH₂)_s-N⁺ R₅R₆ X⁻]_t-CH₂-CH₂-(CH₂)_s-N⁺ R₅R₆R₇ X⁻]_u,

Q⁺X⁻, -CH₂Q⁺X⁻ or -CHCH₃Q⁺X⁻;

and Y is -O- [[,]] or NR₉ or a direct bond;

Q⁺ X⁻ is  or  X⁻, and

wherein

R₁ is C₁-C₁₈alkylene,

R₂ is a direct bond or C₁-C₁₈alkylene,

R₃ is hydrogen or C₁-C₁₈alkyl,

R₄ is hydrogen or C₁-C₁₈alkyl,

R₅, R₆ and R₇ are each independently of the others hydrogen, C₁-C₁₈alkyl, C₃-C₁₂cycloalkyl, phenyl or C₇-C₉phenylalkyl or C₆-C₁₀heteroaryl, which all may be unsubstituted or substituted by halogen, OH, NO₂, CN, C₁-C₄alkoxy, or

R₅, R₆ and R₇ together with the nitrogen or phosphorous atom to which they are bonded form a 3-12 membered monocyclic or polycyclic ring which may contain further heteroatoms;

R₉ is hydrogen, C₁-C₁₈alkyl, C₃-C₁₈alkenyl, C₃-C₁₈alkinyl, phenyl, C₇-C₉phenylalkyl, which all may be unsubstituted or substituted by one or more hydroxy, halogen or C₁-C₄alkoxy groups ;

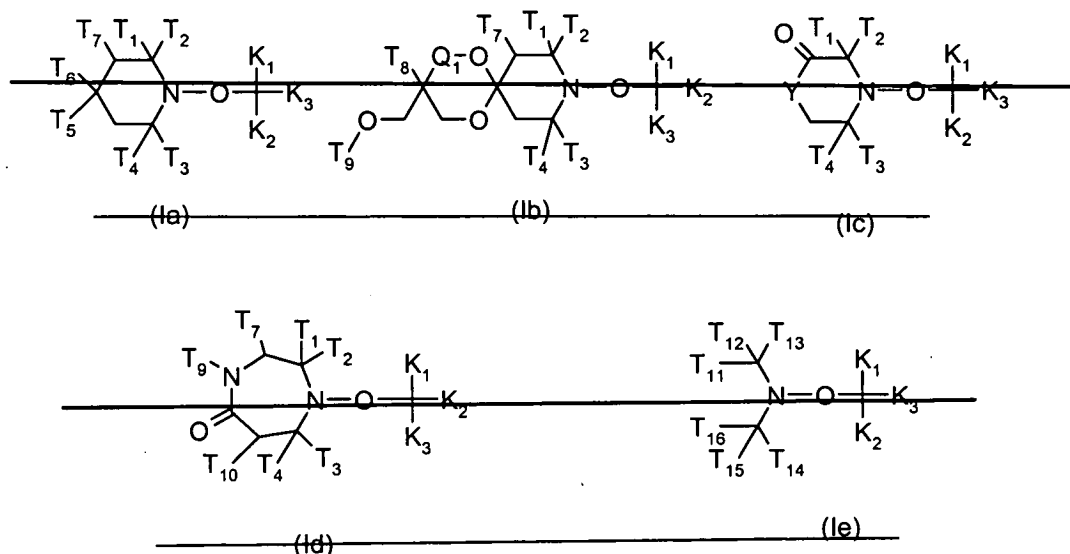
R₂₂ is C₁-C₁₈alkyl;

X⁻ is the anion of a C₁-C₁₈carboxylic acid which may contain more than one carboxylic acid group, fluoride, chloride, bromide, iodide, nitrite, nitrate, hydroxide, acetate, hydrogen sulfate, sulfate, C₁-C₁₈alkoxy sulfate, aromatic or aliphatic sulfonate, carbonate, hydrogen carbonate, perchlorate, chlorate, tetrafluoroborate, borate, phosphate, hydrogen phosphate, dihydrogen phosphate or mixtures thereof ; and

[[p,]] q, and r are independently of each other a number from 0 to 10 and at least one is different from 0.

2. (cancelled)

3. (currently amended) A compound according to claim 1 of formulae Ia, Ib, Ic, Id or Ie,



wherein-

~~Q₁ is a direct bond or a -CH₂- group; wherein~~

if Q_4 is a direct bond, T_8 is hydrogen, and

if Q_4 is CH_2 , T_8 is methyl or ethyl;

T_1, T_2, T_3 and T_4 are independently methyl or ethyl with the proviso that at least one is ethyl;

T_7 and T_{10} are independently hydrogen or methyl;

T_5 and T_6 are hydrogen or

T_5 and T_6 together are a group $=O$, $=NOH$, $=NO-T_9$ or

T_5 is hydrogen and T_6 is $-O-T_9$ or $-NR_9-T_9$ where T_9 is hydrogen, R_9 or $C(O)-R_9$, where R_9 is hydrogen, C_1-C_{18} alkyl, C_3-C_{18} alkenyl, C_3-C_{18} alkinyl, phenyl, C_2-C_9 phenylalkyl, which may be unsubstituted or substituted by one or more hydroxy, halogen or C_1-C_4 alkoxy groups;

$T_{11}, T_{12}, T_{13}, T_{14}, T_{15}$ and T_{16} independently are C_1-C_{18} alkyl, C_3-C_{18} alkenyl, C_3-C_{18} alkinyl, C_6-C_{12} cycloalkyl, phenyl or C_2-C_9 phenylalkyl; or

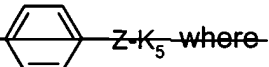
T_{11} is hydrogen and T_{12} is a group $-P(O)(OC_2H_5)_2$ and the others are as defined above;

or T_{11} and T_{14} are a group $-CH_2-O-T_9$ and the others are as defined above; or

T_{16} is a group $-C(O)-Y-R_5$ and the others are as defined above; or

T_{11}, T_{12} and T_{13} are a group $-CH_2OH$;



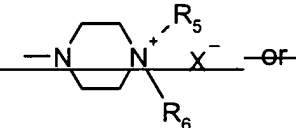
K_1 and K_2 are hydrogen, C_5-C_{12} cycloalkyl, phenyl or C_2-C_9 phenylalkyl and

K_3 is a group $-COK_4$ or  where

K_4 is $-Y-[(CH_2-CH_2)-(CH_2)_6-N^+R_5R_6X^-]_t-CH_2-CH_2-(CH_2)_6-N^+R_5R_6R_7X^-$ or

$-Y-CH_2-CHOH-CH_2-N^+R_5R_6X^--[[(CH_2-CH_2)-(CH_2)_6-N^+X^-R_5R_6]_t-CH_2-CH_2-(CH_2)_6-N^+R_5R_6R_7X^-]_u-$

where s and t are each a number from 0-4 and u is 1; or

K_4 is a group  Q^+X^- ,  $N^+R_5X^-$ or  $N^+(R_5)(R_6)X^-$ or

Z is $-C(O)-$ or a direct bond, wherein

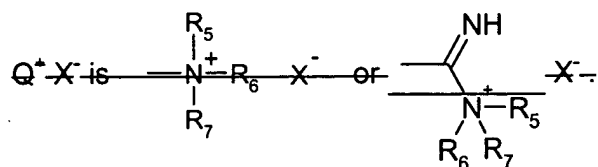
if Z is $-C(O)-$, K_5 has the meaning of K_4 , and

if Z is a direct bond, K_5 is

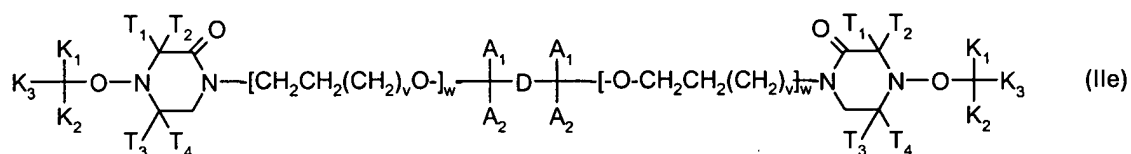
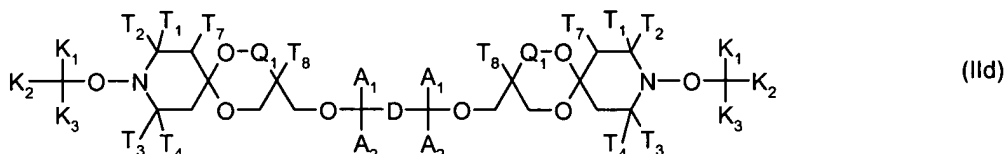
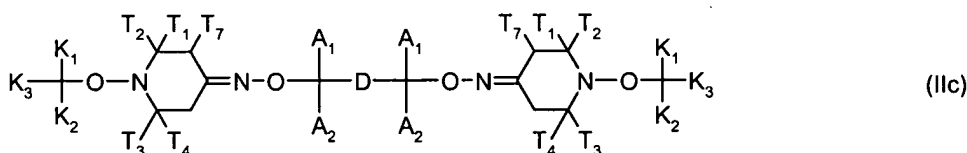
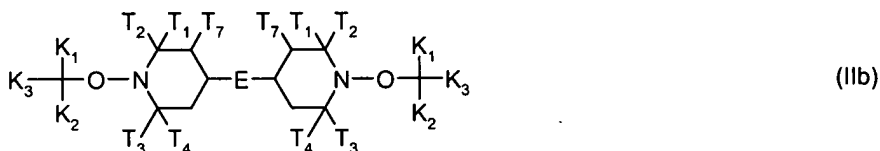
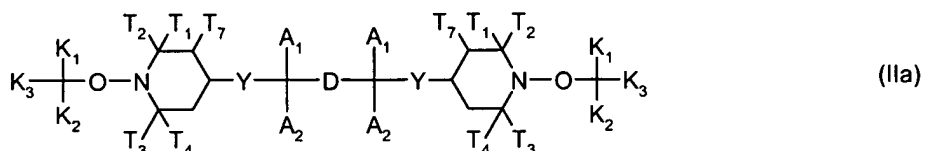
$-O-CH_2-CHOH-CH_2-N^+R_5R_6X^--[[(CH_2-CH_2)-(CH_2)_6-N^+R_5R_6X^-]_t-CH_2-CH_2-(CH_2)_6-N^+R_5R_6R_7X^-]_u-$

Q^+X^- , $-CH_2Q^+X^-$ or $-CHCH_3Q^+X^-$;

Y is $-O-$ or $-NR_9$;



4. (currently amended) A compound according to claim 1 of formula IIa, IIb, IIc, IId or IIe

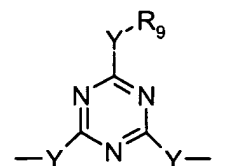


wherein

A₁ and A₂ are independently hydrogen or together with the carbon atom to which they are bonded form a carbonyl group, -C(O)-;

D is a direct bond or C₁-C₁₂alkylene, C₁-C₁₂alkylene which is interrupted by one or more O, S, or NR₉ atoms, C₅-C₁₂cycloalkylene or phenylene;

E is a group -NR₉-(CH₂)_x-NR₉- where x is a number from 2 to 12, or a group



v is a number from 0 to 10 and w is 0 or 1;

Q₁ is a direct bond or a -CH₂- group; wherein

if Q₁ is a direct bond, T₈ is hydrogen, and

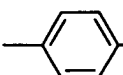
if Q₁ is -CH₂-, T₈ is hydrogen, methyl or ethyl;

Y is -O- or -NR₉;

T₁, T₂, T₃ and T₄ are independently methyl or ethyl with the proviso that at least one is ethyl;

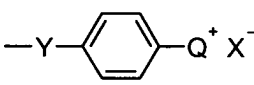
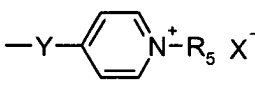
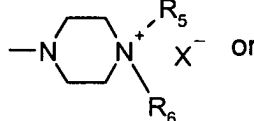
T₇ is hydrogen or methyl;

K₁ and K₂ are hydrogen, C₁-C₁₈alkyl, C₅-C₁₂cycloalkyl, phenyl or C₇-C₉phenylalkyl and

K₃ is a group -COK₄ or -Z-K₅ where

K₄ is Y-[(CH₂-CH₂)-(CH₂)_s-N⁺ R₅R₆ X]_t-CH₂-CH₂-(CH₂)_s-N⁺ R₅R₆R₇ X⁻ or

-Y-CH₂-CHOH-CH₂-N⁺ R₅R₆X⁻-{[(CH₂-CH₂)-(CH₂)_s-N⁺ R₅R₆ X]_t-CH₂-CH₂-(CH₂)_s-N⁺ R₅R₆R₇ X]_u,
where s and t are each a number from 0-4 and u is 1; or

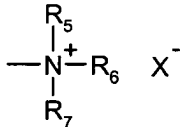
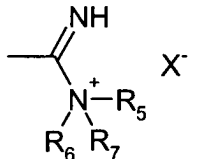
K₄ is a group ,  or  or

Z is -C(O)- or a direct bond, wherein

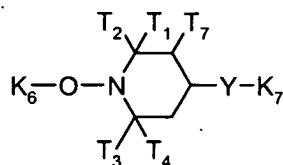
if Z is -C(O)-, K₅ has the meaning of K₄, and

if Z is a direct bond, K₅ is

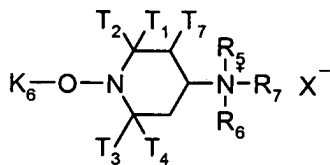
O-CH₂-CHOH-CH₂-N⁺ R₅R₆ X⁻-{[(CH₂-CH₂)-(CH₂)_s-N⁺ R₅R₆ X]_t-CH₂-CH₂-(CH₂)_s-N⁺ R₅R₆R₇ X]_u,
Q⁺X⁻, -CH₂Q⁺X⁻ or -CHCH₃Q⁺X⁻;

Q⁺X⁻ is  X⁻ or  X⁻.

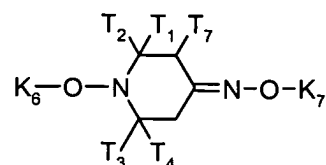
5. (currently amended) A compound according to claim 1 of formula IIIa, IIIb, IIIc, IIId or IIIe



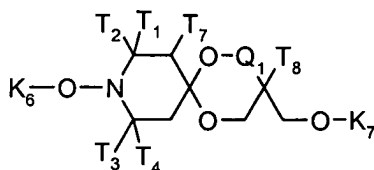
(IIIa)



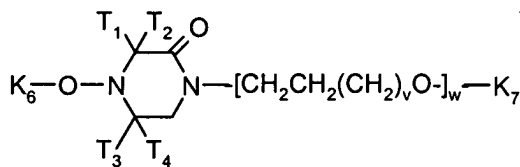
(IIIb)



(IIIc)



(IIId)



(IIIe)

wherein

T₁, T₂, T₃ and T₄ are independently methyl or ethyl with the proviso that at least one is ethyl;

T₇ is hydrogen or methyl;

Y is O or NR₉;

Q₁ is a direct bond or a -CH₂- group; wherein

if Q₁ is a direct bond, T₈ is hydrogen, and

if Q₁ is -CH₂-, T₈ is methyl or ethyl;

v is a number from 0 to 10 and w is 0 or 1;

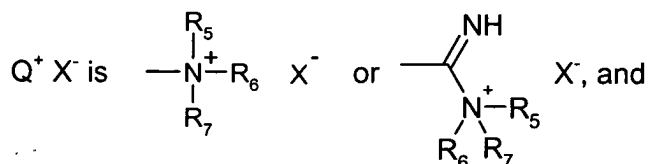
K₇ is a group

-CH₂-CHOH-CH₂-N⁺ R₅R₆ X⁻ -{[(CH₂-CH₂)-(CH₂)_s-N⁺ R₅R₆ X⁻]_t-CH₂-CH₂-(CH₂)_s-N⁺ R₅R₆R₇ X⁻]_u ,

where s and t are each a number from 0-4 and u is 1; or a group -D₁-Q⁺ X⁻ where

D₁ is C₁-C₁₂alkylene, C₁-C₁₂alkylene which is interrupted by one or more O, S, or NR₉ atoms,

C₅-C₁₂cycloalkylene or phenylene;



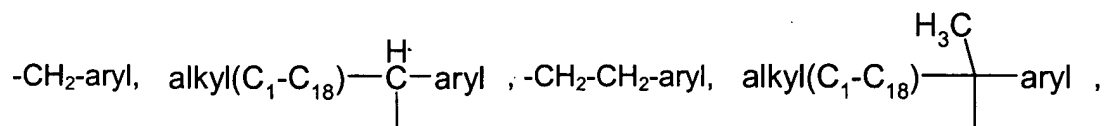
R₅, R₆ and R₇ are each independently of the others hydrogen, C₁-C₁₈alkyl, C₃-C₁₂cycloalkyl, phenyl or C₇-C₉phenylalkyl or C₆-C₁₀heteroaryl, which all may be unsubstituted or substituted by halogen, OH, NO₂, CN, C₁-C₄alkoxy, or

R₅, R₆ and R₇ together with the nitrogen or phosphorous atom to which they are bonded form a 3-12 membered monocyclic or polycyclic ring which may contain further heteroatoms;

R₉ is hydrogen, C₁-C₁₈alkyl, C₃-C₁₈alkenyl, C₃-C₁₈alkinyl, phenyl, C₇-C₉phenylalkyl, which all may be unsubstituted or substituted by one or more hydroxy, halogen or C₁-C₄alkoxy groups

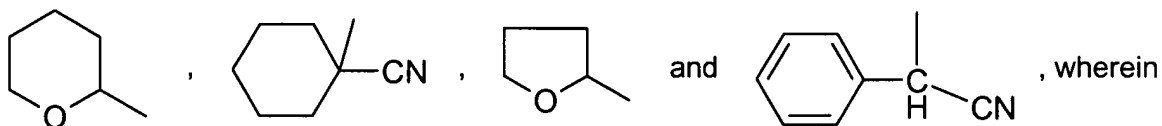
X⁻ is the anion of a C₁-C₁₈carboxylic acid which may contain more than one carboxylic acid group, fluoride, chloride, bromide, iodide, nitrite, nitrate, hydroxide, acetate, hydrogen sulfate, sulfate, C₁-C₁₈alkoxy sulfate, aromatic or aliphatic sulfonate, carbonate, hydrogen carbonate, perchlorate, chlorate, tetrafluoroborate, borate, phosphate, hydrogen phosphate, dihydrogen phosphate or mixtures thereof ;

K₆ is selected from the group consisting of



(C₅-C₆cycloalkyl)₂CCN, (C₁-C₁₂alkyl)₂CCN, -CH₂CH=CH₂, (C₁-C₁₂)alkyl-CR₃₀-C(O)-(C₁-C₁₂)alkyl, (C₁-C₁₂)alkyl-CR₃₀-C(O)-(C₆-C₁₀)aryl, (C₁-C₁₂)alkyl-CR₃₀-C(O)-(C₁-C₁₂)alkoxy, (C₁-C₁₂)alkyl-CR₃₀-C(O)-phenoxy, (C₁-C₁₂)alkyl-CR₃₀-C(O)-N-di(C₁-C₁₂)alkyl, (C₁-C₁₂)alkyl-CR₃₀-CO-NH(C₁-C₁₂)alkyl, (C₁-C₁₂)alkyl-CR₃₀-CO-NH₂, -CH₂CH=CH-CH₃,

-CH₂-C(CH₃)=CH₂, -CH₂-CH=CH-phenyl, -CH₂-C \equiv CH, 3-cyclohexenyl, 3-cyclopentenyl,

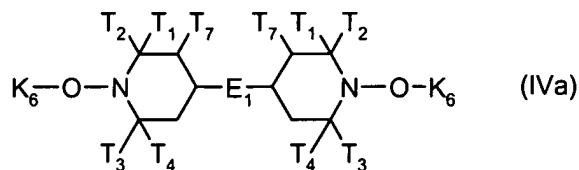


R₃₀ is hydrogen or C₁-C₁₂alkyl;

the alkyl groups are unsubstituted or substituted with one or more -OH, -COOH or -C(O)R₃₀ groups; and

the aryl groups are phenyl or naphthyl which are unsubstituted or substituted with C₁-C₁₂alkyl, halogen, C₁-C₁₂alkoxy, C₁-C₁₂alkylcarbonyl, glycidyloxy, OH, -COOH or -COO(C₁-C₁₂)alkyl.

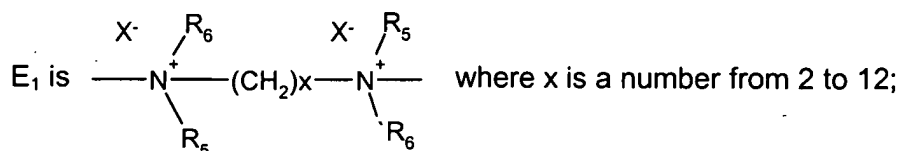
6. (previously presented) A compound according to claim 1 of formula IVa



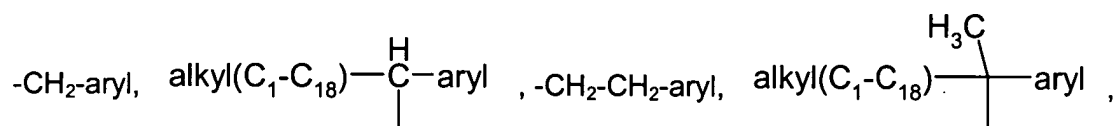
wherein

T₁, T₂, T₃ and T₄ are independently methyl or ethyl with the proviso that at least one is ethyl;

T₇ is hydrogen or methyl;



K₆ is selected from the group consisting of



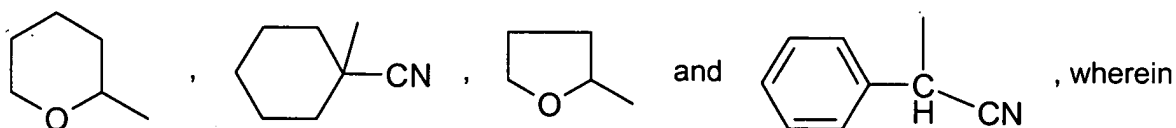
(C₅-C₆cycloalkyl)₂CCN, (C₁-C₁₂alkyl)₂CCN, -CH₂CH=CH₂, (C₁-C₁₂)alkyl-CR₃₀-C(O)-(C₁-C₁₂)alkyl,

(C₁-C₁₂)alkyl-CR₃₀-C(O)-(C₆-C₁₀)aryl, (C₁-C₁₂)alkyl-CR₂₀-C(O)-(C₁-C₁₂)alkoxy,

(C₁-C₁₂)alkyl-CR₃₀-C(O)-phenoxy, (C₁-C₁₂)alkyl-CR₃₀-C(O)-N-di(C₁-C₁₂)alkyl,

(C₁-C₁₂)alkyl-CR₃₀-CO-NH(C₁-C₁₂)alkyl, (C₁-C₁₂)alkyl-CR₃₀-CO-NH₂, -CH₂CH=CH-CH₃,

-CH₂-C(CH₃)=CH₂, -CH₂-CH=CH-phenyl, -CH₂-C \equiv CH, 3-cyclohexenyl, 3-cyclopentenyl,

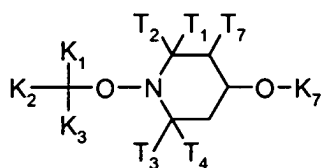


R₃₀ is hydrogen or C₁-C₁₂alkyl;

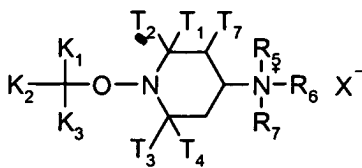
the alkyl groups are unsubstituted or substituted with one or more -OH, -COOH or -C(O)R₃₀ groups; and

the aryl groups are phenyl or naphthyl which are unsubstituted or substituted with C₁-C₁₂alkyl, halogen, C₁-C₁₂alkoxy, C₁-C₁₂alkylcarbonyl, glycidyloxy, OH, -COOH or -COO(C₁-C₁₂)alkyl.

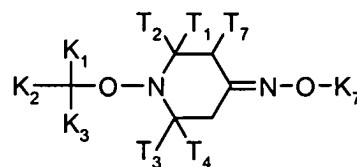
7. (currently amended) A compound according to claim 1 of formula Va, Vb, Vc, Vd or Ve



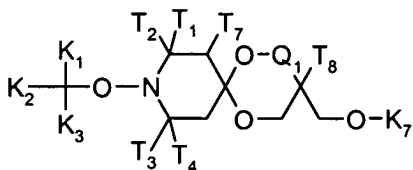
(Va)



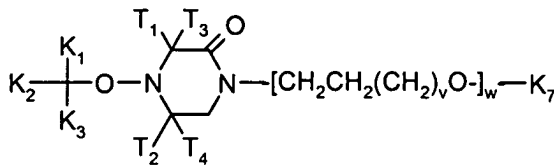
(Vb)



(Vc)



(Vd)



(Ve)

wherein

T₁, T₂, T₃ and T₄ are independently methyl or ethyl with the proviso that at least one is ethyl;

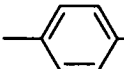
T₇ is hydrogen or methyl;

Q₁ is a direct bond or a -CH₂- group; wherein

if Q₁ is a direct bond, T₈ is hydrogen, and

if Q₁ is -CH₂-, T₈ is methyl or ethyl;

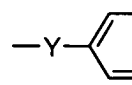
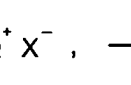
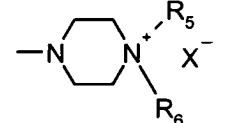
K₁ and K₂ are hydrogen, C₁-C₁₈alkyl, C₅-C₁₂cycloalkyl, phenyl or C₇-C₉phenylalkyl and

K₃ is a group -COK₄ or -Z-K₅ where

K₄ is Y-[(CH₂-CH₂)-(CH₂)_s-N⁺ R₅R₆ X]_t-CH₂-CH₂-(CH₂)_s-N⁺ R₅R₆R₇ X⁻ or

-Y-CH₂-CHOH-CH₂-N⁺ R₅R₆X⁻-{[(CH₂-CH₂)-(CH₂)_s-N⁺ R₅R₆ X]_t-CH₂-CH₂-(CH₂)_s-N⁺ R₅R₆R₇ X]_u,

where s and t are each a number from 0-4 and u is 1; or

K₄ is a group ,  or  or

Z is -C(O)- or a direct bond, wherein

if Z is -C(O)-, K₅ has the meaning of K₄, and

if Z is a direct bond, K₅ is

O-CH₂-CHOH-CH₂-N⁺ R₅R₆ X⁻-{[(CH₂-CH₂)-(CH₂)_s-N⁺ R₅R₆ X]_t-CH₂-CH₂-(CH₂)_s-N⁺ R₅R₆R₇ X]_u, Q⁺X⁻,

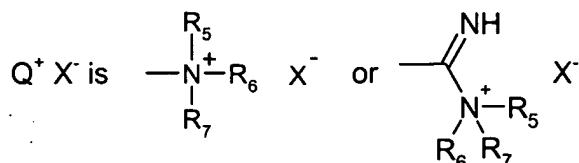
-CH₂Q⁺X⁻ or -CHCH₃Q⁺X⁻;

K₇ is a group

-CH₂-CHOH-CH₂-N⁺ R₅R₆ X⁻-{[(CH₂-CH₂)-(CH₂)_s-N⁺ R₅R₆ X⁻]_t-CH₂-CH₂-(CH₂)_s-N⁺ R₅R₆R₇ X⁻]_u,

where s and t are each a number from 0-4 and u is 0 or 1; or a group -D₁-Q⁺ X⁻ where

D₁ is C₁-C₁₂alkylene, C₁-C₁₂alkylene which is interrupted by one or more O, S, or NR₉ atoms, C₅-C₁₂cycloalkylene or phenylene;



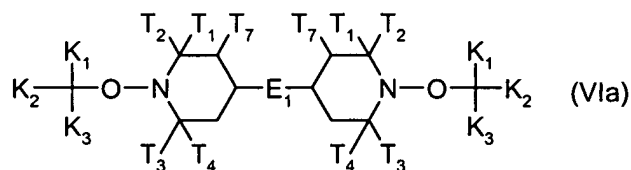
R₅, R₆ and R₇ are each independently of the others hydrogen, C₁-C₁₈alkyl, C₃-C₁₂cycloalkyl, phenyl or C₇-C₉phenylalkyl or C₆-C₁₀heteroaryl, which all may be unsubstituted or substituted by halogen, OH, NO₂, CN, C₁-C₄alkoxy, or

R₅, R₆ and R₇ together with the nitrogen or phosphorous atom to which they are bonded form a 3-12 membered monocyclic or polycyclic ring which may contain further heteroatoms;

R₉ is hydrogen, C₁-C₁₈alkyl, C₃-C₁₈alkenyl, C₃-C₁₈alkinyl, phenyl, C₇-C₉phenylalkyl, which all may be unsubstituted or substituted by one or more hydroxy, halogen or C₁-C₄alkoxy groups

X⁻ is the anion of a C₁-C₁₈carboxylic acid which may contain more than one carboxylic acid group, fluoride, chloride, bromide, iodide, nitrite, nitrate, hydroxide, acetate, hydrogen sulfate, sulfate, C₁-C₁₈alkoxy sulfate, aromatic or aliphatic sulfonate, carbonate, hydrogen carbonate, perchlorate, chlorate, tetrafluoroborate, borate, phosphate, hydrogen phosphate, dihydrogen phosphate or mixtures thereof.

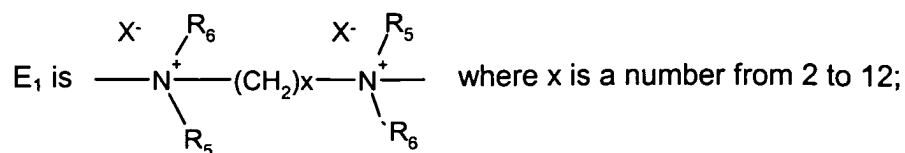
8. (currently amended) A compound according to claim 1 of formula VIa



wherein

T₁, T₂, T₃ and T₄ are independently methyl or ethyl with the proviso that at least one is ethyl;

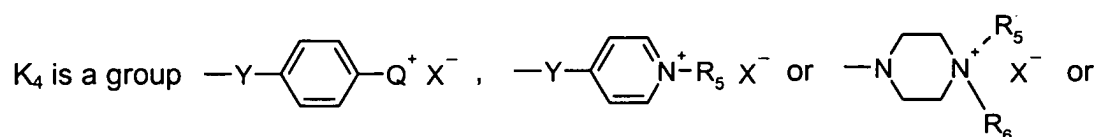
T₇ is hydrogen or methyl;



K_1 and K_2 are hydrogen, C_1 - C_{18} alkyl, C_5 - C_{12} cycloalkyl, phenyl or C_7 - C_9 phenylalkyl and

K_3 is a group $-COK_4$ or $\text{---}\text{C}_6\text{H}_4\text{---}Z\text{---}K_5$ where

K_4 is $Y\text{---}[(CH_2\text{---}CH_2)\text{---}(CH_2)_s\text{---}N^+R_5R_6X^-]_t\text{---}CH_2\text{---}CH_2\text{---}(CH_2)_s\text{---}N^+R_5R_6R_7X^-$ or $\text{---}Y\text{---}CH_2\text{---}CHOH\text{---}CH_2\text{---}N^+R_5R_6X^-\{[(CH_2\text{---}CH_2)\text{---}(CH_2)_s\text{---}N^+R_5R_6X^-]_t\text{---}CH_2\text{---}CH_2\text{---}(CH_2)_s\text{---}N^+R_5R_6R_7X^- \}_u$, where s and t are each a number from 0-4 and u is 1; or



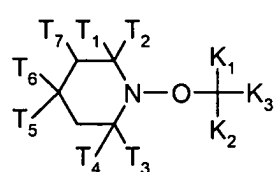
Z is $-C(O)\text{---}$ or a direct bond, wherein

if Z is $-C(O)\text{---}$, K_5 has the meaning of K_4 , and

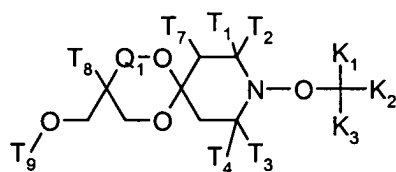
if Z is a direct bond, K_5 is

$O\text{---}CH_2\text{---}CHOH\text{---}CH_2\text{---}N^+R_5R_6X^-\{[(CH_2\text{---}CH_2)\text{---}(CH_2)_s\text{---}N^+R_5R_6X^-]_t\text{---}CH_2\text{---}CH_2\text{---}(CH_2)_s\text{---}N^+R_5R_6R_7X^- \}_u$, Q^+X^- , $\text{---}CH_2Q^+X^-$ or $\text{---}CHCH_3Q^+X^-$.

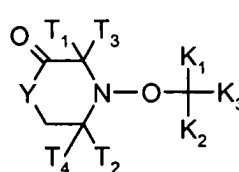
9. (previously presented) A compound according to claim 3 of formula Ia1, Ib1, Ic1, Id1 or Ie1



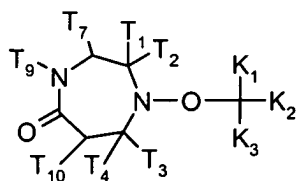
(Ia1)



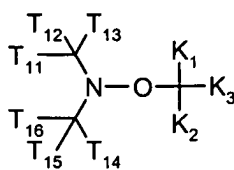
(Ib1)



(Ic1)



(Id1)



(Ie1)

wherein

Q_1 is a direct bond or CH_2 ;

T_{17} and T_3 are ethyl and T_{27} and T_4 are methyl;

T_7 is methyl or H;

if Q_1 is a direct bond, T_8 is H;

if Q_1 is CH_2 , T_8 is methyl or ethyl;

T_{10} is H if T_7 is methyl or T_{10} is methyl if T_7 is H;

T_{11} , T_{12} , T_{13} , T_{14} , T_{15} and T_{16} are independently methyl or ethyl; or

T_{11} is H, T_{12} is isopropyl, T_{13} is phenyl and T_{14} , T_{15} , and T_{16} are methyl; or

T_{11} is H, T_{12} is $-P(=O)(OC_2H_5)_2$, T_{13} is t-butyl and T_{14} , T_{15} , and T_{16} are methyl; or

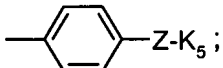
T_{11} and T_{14} are $-CH_2O-T_9$ and T_{127} and T_{15} are methyl or phenyl and T_{137} and T_{16} are methyl or ethyl;
or

T_{11} , T_{12} , T_{13} , T_{14} , T_{15} are methyl and T_{16} is a group $-CO-O-R_9$ or $-CON(R_9)_2$; or

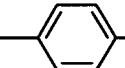
T_{11} , T_{12} and T_{13} are $-CH_2OH$, T_{14} is H, T_{15} is isopropyl and T_{16} phenyl;

T_9 is hydrogen, R_9 or $-C(O)-R_9$, where R_9 is hydrogen, C_1 - C_{18} alkyl, C_3 - C_{18} alkenyl, C_3 - C_{18} alkinyl, phenyl, or C_7 - C_9 phenylalkyl;

K_1 is H, K_2 is methyl or ethyl and

K_3 is a group $-CO-K_4$ or ; Z is $-CO-$ or a direct bond; and

K_4 is $-Y-CH_2-CH_2-(CH_2)_s-N^+X^-R_5R_6R_7$ or; $-Y-CH_2-CHOH-CH_2-N-CH_2-CH_2-(CH_2)_s-N^+X^-R_5R_6R_7$ where Y is O or NR_9 and s is a number from 0 to 2;

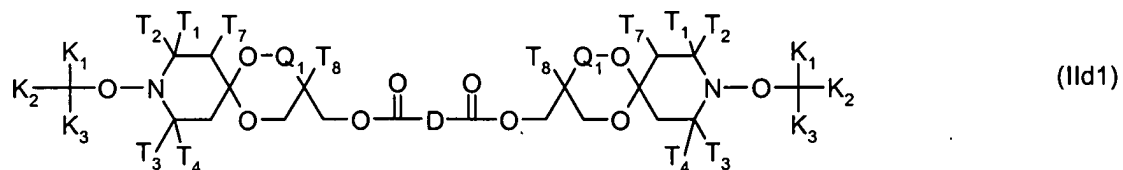
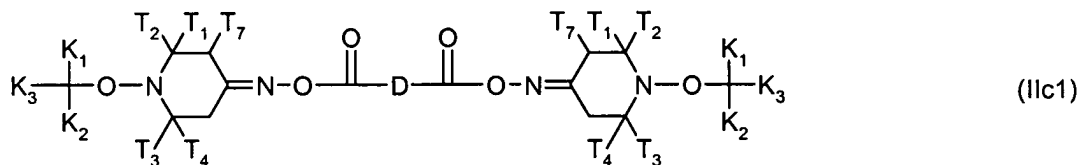
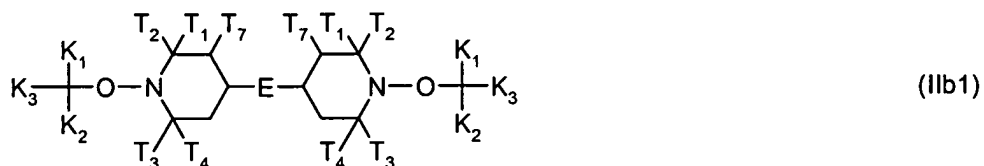
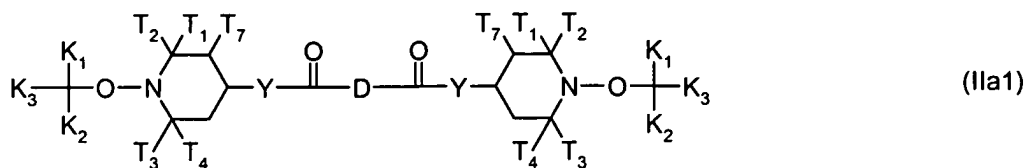
if K_3 is , Z is $-CO-$ or a direct bond; and

if Z is $-CO-$, K_5 has the same meaning as K_4 ;

if Z is a direct bond, K_5 is a group $-O-CH_2-CHOH-CH_2-N-CH_2-CH_2-(CH_2)_s-N^+X^-R_5R_6R_7$ or $-CH_2N^+R_5R_6R_7 X^-$ and

X^- is the anion of a C_1 - C_{18} carboxylic acid which may contain more than one carboxylic acid group, fluoride, chloride, bromide, iodide, nitrite, nitrate, hydroxide, acetate, hydrogen sulfate, sulfate, C_1 - C_{18} alkoxy sulfate, aromatic or aliphatic sulfonate, carbonate, hydrogen carbonate, perchlorate, chlorate, tetrafluoroborate, borate, phosphate, hydrogen phosphate, dihydrogen phosphate or mixtures thereof.

10. (previously presented) A compound according to claim 4 of formula IIa1, IIb1, IIc1 or IId1



wherein

Q_1 is a direct bond or CH_2 ;

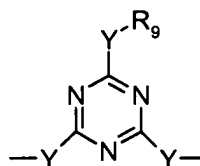
T_{17} and T_3 are ethyl and T_2 , T_4 and T_7 are methyl;

if Q_1 is a direct bond, T_8 is H; and

if Q_1 is CH_2 , T_8 is methyl or ethyl;

D is a direct bond, C_1 - C_{12} alkylene or phenylene;

E is $-\text{NR}_5-(\text{CH}_2)_x-\text{NR}_5-$ where x is 2 to 12 or a group



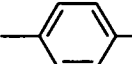
wherein Y is $=\text{NR}_9$;

K_1 is H, K_2 is methyl or ethyl and

K_3 is a group $-\text{CO}-\text{K}_4$ or $-\text{C}_6\text{H}_4-\text{Z}-\text{K}_5$;

K_4 is $-\text{Y}-\text{CH}_2-\text{CH}_2-(\text{CH}_2)_s-\text{N}^+\text{X}^-\text{R}_5\text{R}_6\text{R}_7$ or $-\text{Y}-\text{CH}_2-\text{CHOH}-\text{CH}_2-\text{N}-\text{CH}_2-\text{CH}_2-(\text{CH}_2)_s-\text{N}^+\text{X}^-\text{R}_5\text{R}_6\text{R}_7$, where Y is O or NR_9 and s is a number from 0 to 2;

R₉ is hydrogen, C₁-C₁₈alkyl, C₃-C₁₈alkenyl, C₃-C₁₈alkinyl, phenyl or C₇-C₉phenylalkyl;

if K₃ is  Z-K₅, Z is -CO- or a direct bond;

if Z is -CO-, K₅ has the same meaning as K₄;

if Z is a direct bond, K₅ is a group -O-CH₂-CHOH-CH₂-N-CH₂-CH₂-(CH₂)_s-N⁺X⁻R₅R₆R₇ or -CH₂N⁺R₅R₆R₇ X⁻;

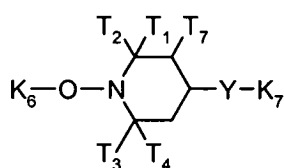
and

X⁻ is the anion of a C₁-C₁₈carboxylic acid which may contain more than one carboxylic acid group, fluoride, chloride, bromide, iodide, nitrite, nitrate, hydroxide, acetate, hydrogen sulfate, sulfate, C₁-C₁₈alkoxy sulfate, aromatic or aliphatic sulfonate, carbonate, hydrogen carbonate, perchlorate, chlorate, tetrafluoroborate, borate, phosphate, hydrogen phosphate, dihydrogen phosphate or mixtures thereof.

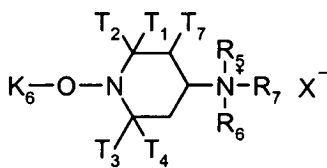
11. (currently amended) A process for preparing a monomer/polymer clay nanocomposite dispersion comprising the steps of

- A) providing a first aqueous dispersion of a natural or synthetic clay which can be partially intercalated and/or exfoliated and wherein said clay has an exchangeable cation;
adding ~~a compound according to claim 1~~ to said dispersion and exchanging said cation at least partially a compound according to claim 1; or

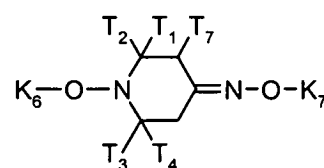
a compound of formula IIIa, IIIb, IIIc, IIId, IIIe, Va, Vb, Vc, Vd or Ve



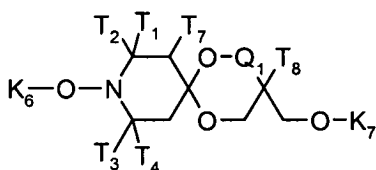
(IIIa)



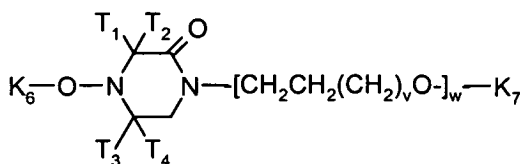
(IIIb)



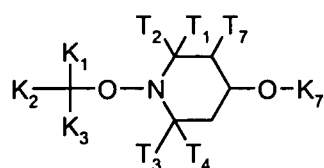
(IIIc)



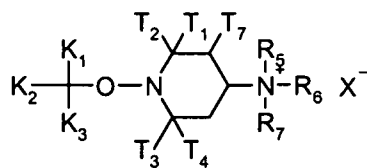
(IIId)



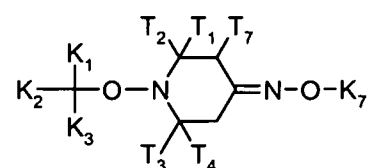
(IIIe)



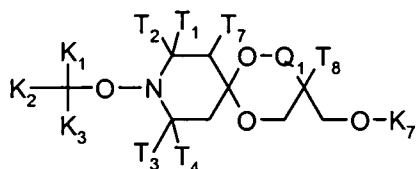
(Va)



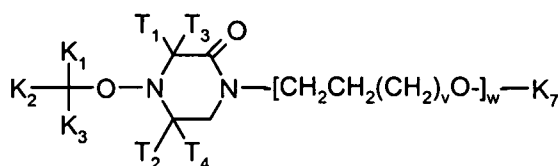
(Vb)



(Vc)



(Vd)



(Ve)

wherein

T_1 , T_2 , T_3 and T_4 are independently methyl or ethyl with the proviso that at least one is ethyl;

T_7 is hydrogen or methyl;

Y is O or NR_9 ;

Q_1 is a direct bond or a $-CH_2-$ group; wherein

if Q_1 is a direct bond, T_8 is hydrogen, and

if Q_1 is $-CH_2-$, T_8 is methyl or ethyl;

v is a number from 0 to 10 and w is 0 or 1;

K_1 and K_2 are hydrogen, C_1 - C_{18} alkyl, C_5 - C_{12} cycloalkyl, phenyl or C_7 - C_9 phenylalkyl and

K_3 is a group $-COK_4$ or $\text{---}\text{C}_6\text{H}_4\text{---}Z-K_5$ where

K_4 is $Y-[(CH_2-CH_2)-(CH_2)_s-N^+R_5R_6X]_t-CH_2-CH_2-(CH_2)_s-N^+R_5R_6R_7X^-$ or

$-Y-CH_2-CHOH-CH_2-N^+R_5R_6X-[(CH_2-CH_2)-(CH_2)_s-N^+R_5R_6X]_t-CH_2-CH_2-(CH_2)_s-N^+R_5R_6R_7X^-$,
where s and t are each a number from 0-4 and u is 1; or

where s and t are each a number from 0-4 and u is 1; or

K_4 is a group $\text{---}Y\text{---}\text{C}_6\text{H}_4\text{---}Q^+X^-$ or $\text{---}Y\text{---}\text{C}_6\text{H}_4\text{---}N^+R_5X^-$ or $\text{---}N(R_5)(R_6)X^-$ or

Z is $-C(O)-$ or a direct bond, wherein

if Z is $-C(O)-$, K_5 has the meaning of K_4 , and

if Z is a direct bond, K_5 is

$O-CH_2-CHOH-CH_2-N^+R_5R_6X-[(CH_2-CH_2)-(CH_2)_s-N^+R_5R_6X]_t-CH_2-CH_2-(CH_2)_s-N^+R_5R_6R_7X^-$, Q^+X^- ,
 $-CH_2Q^+X^-$ or $-CHCH_3Q^+X^-$;

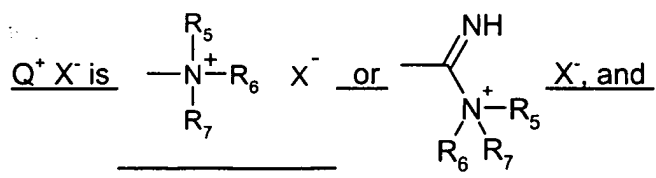
K₇ is a group

-CH₂-CHOH-CH₂-N⁺ R₅R₆ X⁻ -{[(CH₂-CH₂)-(CH₂)_s-N⁺ R₅R₆ X⁻]-CH₂-CH₂-(CH₂)_s-N⁺ R₅R₆R₇ X⁻]_u,

where s and t are each a number from 0-4 and u is 1; or a group -D₁-Q⁺ X⁻ where

D₁ is C₁-C₁₂alkylene, C₁-C₁₂alkylene which is interrupted by one or more O, S, or NR₉ atoms,

C₅-C₁₂cycloalkylene or phenylene;



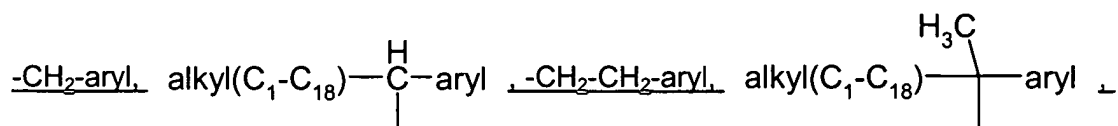
R₅, R₆ and R₇ are each independently of the others hydrogen, C₁-C₁₈alkyl, C₃-C₁₂cycloalkyl, phenyl or C₇-C₉phenylalkyl or C₆-C₁₀heteroaryl, which all may be unsubstituted or substituted by halogen, OH, NO₂, CN, C₁-C₄alkoxy, or

R₅, R₆ and R₇ together with the nitrogen or phosphorous atom to which they are bonded form a 3-12 membered monocyclic or polycyclic ring which may contain further heteroatoms;

R₉ is hydrogen, C₁-C₁₈alkyl, C₃-C₁₈alkenyl, C₃-C₁₈alkinyl, phenyl, C₇-C₉phenylalkyl, which all may be unsubstituted or substituted by one or more hydroxy, halogen or C₁-C₄alkoxy groups

X⁻ is the anion of a C₁-C₁₈carboxylic acid which may contain more than one carboxylic acid group, fluoride, chloride, bromide, iodide, nitrite, nitrate, hydroxide, acetate, hydrogen sulfate, sulfate, C₁-C₁₈alkoxy sulfate, aromatic or aliphatic sulfonate, carbonate, hydrogen carbonate, perchlorate, chlorate, tetrafluoroborate, borate, phosphate, hydrogen phosphate, dihydrogen phosphate or mixtures thereof ;

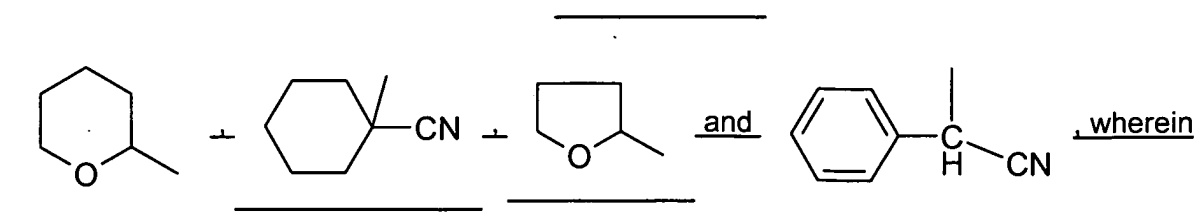
K₆ is selected from the group consisting of



(C₅-C₆cycloalkyl)₂CCN, (C₁-C₁₂alkyl)₂CCN, -CH₂CH=CH₂, (C₁-C₁₂alkyl)-CR₃₀-C(O)-(C₁-C₁₂alkyl, (C₁-C₁₂alkyl)-CR₃₀-C(O)-(C₆-C₁₀)aryl, (C₁-C₁₂alkyl)-CR₃₀-C(O)-(C₁-C₁₂)alkoxy, (C₁-C₁₂alkyl)-CR₃₀-C(O)-phenoxy, (C₁-C₁₂alkyl)-CR₃₀-C(O)-N-di(C₁-C₁₂)alkyl,

(C₁-C₁₂)alkyl-CR₃₀-CO-NH(C₁-C₁₂)alkyl, (C₁-C₁₂)alkyl-CR₃₀-CO-NH₂, -CH₂CH=CH-CH₃,

-CH₂-C(CH₃)=CH₂, -CH₂-CH=CH-phenyl, -CH₂-C≡CH, 3-cyclohexenyl, 3-cyclopentenyl,



R₃₀ is hydrogen or C₁-C₁₂alkyl;

the alkyl groups are unsubstituted or substituted with one or more -OH, -COOH or -C(O)R₃₀ groups;

and

the aryl groups are phenyl or naphthyl which are unsubstituted or substituted with C₁-C₁₂alkyl,

halogen, C₁-C₁₂alkoxy, C₁-C₁₂alkylcarbonyl, glycidyloxy, OH, -COOH or -COO(C₁-C₁₂)alkyl.

B) adding to said dispersion at least one ethylenically unsaturated monomer and polymerizing at least a portion of said ethylenically unsaturated monomer.

12. (original) A process according to claim 11 wherein the water phase of step A) is at least partially removed before performing step B).

13. (previously presented) A process according to claim 11 wherein the compound is added in an amount of from 1% to 100% by weight, based on the weight of the clay.

14. (previously presented) A process according to claim 11 wherein the ethylenically unsaturated monomer or oligomer is selected from the group consisting of styrene, substituted styrenes, conjugated dienes, acrolein, vinyl acetate, vinylpyrrolidone, vinylimidazole, maleic anhydride, (alkyl)acrylic acid anhydrides, (alkyl)acrylic acid salts, (alkyl)acrylic esters, (meth)acrylonitriles and (alkyl)acrylamides, vinyl halides and vinylidene halides or mixtures thereof.

15. (previously presented) A process according to claim 14 wherein the ethylenically unsaturated monomers are styrene, α -methyl styrene, p-methyl styrene or a compound of formula CH₂=C(R_a)-(C=Z)-R_b, wherein R_a is hydrogen or C₁-C₄alkyl, R_b is NH₂, O⁻(Me⁺), glycidyl, unsubstituted C₁-C₁₈alkoxy, C₂-C₁₀₀alkoxy interrupted by at least one N and/or O atom, or hydroxy-substituted C₁-C₁₈alkoxy, unsubstituted C₁-C₁₈alkylamino, di(C₁-C₁₈alkyl)amino, hydroxy-substituted

C₁-C₁₈alkylamino or hydroxy-substituted di(C₁-C₁₈alkyl)amino, -O-CH₂-CH₂-N(CH₃)₂ or -O-CH₂-CH₂-N⁺H(CH₃)₂ An⁻; wherein

An⁻ is an anion of a monovalent organic or inorganic acid;

Me is a monovalent metal atom or the ammonium ion- and

Z is oxygen or sulfur.

16. (original) A process according to claim 11 wherein an acid containing unsaturated monomer is added, which is selected from the group consisting of methacrylic anhydride, maleic anhydride, itaconic anhydride, acrylic acid, methacrylic acid, itaconic acid, maleic acid, fumaric acid, acryloxypropionic acid, (meth)acryloxypropionic acid, styrene sulfonic acid, ethylmethacrylate-2-sulphonic acid, 2-acrylamido-2-methylpropane, sulphonic acid; phosphoethylmethacrylate; the corresponding salts of the acid containing monomer, and combinations thereof.

17. (original) A process according to claim 11 wherein step B) is repeated with a second ethylenically unsaturated monomer which is different from the first one, leading to a block copolymer.

18. (previously presented) A process according to claim 11 wherein the natural or synthetic clay is selected from the group consisting of montmorillonite, saponite, beidellite, montronite, hectorite, stevensite, vermiculite, kaolinite, hallosite, synthetic phyllosilicates, and combinations thereof.

19. (currently amended) A monomer/polymer clay nanocomposite dispersion ~~obtainable~~ obtained by a process according to claim 11.

20. (original) A composition comprising an aqueous dispersion of a natural or synthetic clay which is partially intercalated and/or exfoliated and a compound according to claim 1.

21. (previously presented) A composition according to claim 20, which contains additionally an ethylenically unsaturated monomer and/or an organic solvent.

22. (currently amended) A method for the polymerization of ethylenically unsaturated monomers which comprises polymerizing said monomers in the presence of a catalytically effective amount of a compound of formula I or II according to claim 1.

23. (previously presented) A method of improving the properties of paints, coatings, inks, adhesives, reactive diluents or thermoplastic materials which comprises incorporating a monomer/polymer clay nanocomposite dispersion according to claim 19 therein.